

### **REMARKS**

These remarks are responsive to the Office Action dated April 5, 2006. Currently claims 1-14 are pending with claims 1, 8, and 13 being independent. Claims 1, 3, 4, and 14 have been amended to accommodate the Examiner's objections and rejections. Claims 9-11 have been amended to correct informalities. Claim 15 has been added. Support for the amendments can be found in the specification at least on page 14, line 12 to page 18, line 10.

In the April 5, 2006 Office Action, the Examiner objected to the Abstract. The Applicants replaced the Abstract with the text appearing on page 2 of this paper. Thus, this objection is now moot and the Examiner is respectfully requested to withdraw his objection.

In the April 5, 2006 Office Action, the Examiner objected to the disclosure because of a typographical error on page 4 of the specification. Applicants corrected this informality by providing a substitute paragraph for the paragraph beginning on page 4, line 7 of the specification. Thus, this objection is now moot and the Examiner is respectfully requested to withdraw his objection.

In the April 5, 2006 Office Action, the Examiner objected to the disclosure because of an informality in figure 3 of the specification. Applicants corrected this informality by providing a substitute paragraph for the paragraph beginning on page 8, line 3 of the specification. Thus, this objection is now moot and the Examiner is respectfully requested to withdraw his objection.

In the April 5, 2006 Office Action, the Examiner objected to the disclosure because of an informality associated with figure 11 of the specification. The Applicants corrected this informality by providing a substitute paragraph for the paragraph beginning on page 18, line 1 of the specification. Thus, this objection is now moot and the Examiner is respectfully requested to withdraw his objection.

In the April 5, 2006 Office Action, the Examiner objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. The Examiner further stated that the term “selection data” in claims 3 and 4 are not disclosed in the specification. Applicants have amended claims 3 and 4 to delete “selection data”. Thus, this objection is now moot and the Examiner is respectfully requested to withdraw his objection.

In the April 5, 2006 Office Action, the Examiner rejected claims 1 and 13 under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which the applicant regards as the invention. The Examiner stated that there exists an if statement, however, it is indefinite as to what happens if the if statement is false. The Applicants amended claims 1 and 13 to delete this limitation. Thus, this rejection is now moot. The Examiner is respectfully requested to reconsider and withdraw his rejection of claims 1 and 13.

In the April 5, 2006 Office Action, the Examiner rejected claims 1-6 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,991,753 to Wilde (hereinafter, “Wilde”) in view of U.S. Patent No. 5,276,867 to Kenley et al. (hereinafter, “Kenley”). This rejection is respectfully traversed for reasons stated below.

In the April 5, 2006 Office Action, the Examiner rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over Wilde and Kenley further in view of U.S. Patent No. 6,490,666 to Cabrera et al. (hereinafter, “Cabrera”). This rejection is respectfully traversed for reasons discussed below.

In the April 5, 2006 Office Action, the Examiner rejected claims 8, 11, and 12 under 35 U.S.C. 103(a) as being unpatentable over Wilde in view of U.S. Patent Pub. No. 2004/0083202

to Mu et al. (hereinafter, "Mu"). This rejection is respectfully traversed for reasons discussed below.

In the April 5, 2006 Office Action, the Examiner rejected claims 9-10 under 35 U.S.C. 103(a) as being unpatentable over Wilde and Mu further in view of Kenley and U.S. Patent Pub. No. 2003/0078946 to Costello et al. (hereinafter, "Costello"). This rejection is respectfully traversed for reasons discussed below.

In the April 5, 2006 Office Action, the Examiner rejected claims 13-14 under 35 U.S.C. 103(a) as being unpatentable over Wilde in view of Mu and Costello. This rejection is respectfully traversed.

35 U.S.C. 103(a)

In the April 19, 2006 Office Action, the Examiner rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over a combination of Wilde and Kenley. This rejection is respectfully traversed.

The Examiner stated that Wilde teaches all elements of claim 1 but fails to explicitly disclose replacing each stub file, upon receipt of a client request for a specified file in the set of files, if the full content of the specified file has not yet been transferred, then replacing the stub file for the specified file with the specified file's full content, wherein replacing the stub fill for the specified file is a higher priority task than replacing the stub files for the non-requested files. However, according to the Examiner, Kenley discloses this element. (Office Action, page 5).

Claim 1 recites, *inter alia*, receiving at a destination fileserver metadata and a set of stub files associated with the set of files; maintaining a list of repository nodes that are associated with each file in the set of files by updating a location components in the fileserver; and, replacing each stub file with a full content of the file associated with the stub file; and wherein

said replacing includes receiving a client request for a specified file in the set of files; replacing the stub file associated with the specified file with a full content of the specified file.

Wilde discloses a method and system for computer file management, including file migration, special handling, and associating extended attributes with files. Wilde's system migrates a file by copying the file to a migration store on a remote storage device. Wilde's migrated copy of the file is called a bitfile that contains all contents of the original file. Wilde retains a stub file after the original file has been truncated to a smaller size with the insertion of additional information necessary to recognize the file as a stub file, to locate the bit file, and to preserve any altered attributes. (Wilde, Col. 5, lines 40-50). This is different than receiving metadata and stub files associated with the set of files at a destination fileserver, as recited in claim 1. Wilde migrates a copy of an entire file rather than a stub file. (Wilde, Col. 5, lines 44-45). Further, Wilde retains a stub file that contains information about the file. (Wilde, Col. 5, lines 46-50). In contrast, the present invention receives metadata and stub files associated with the files, as recited in claim 1. Thus, Wilde does not disclose this element of claim 1.

Wilde also generates a bitfile ID that identifies the created bitfile using certain parameters. (Wilde, Col. 6, lines 58-65). Wilde also generates a new bitfile ID and a new bitfile when a modified file is prestaged or migrated. (Wilde, Col. 7, lines 61-63). Further, Wilde generates a list of files in the file system that are eligible for migration. From the list, a sufficient number of files is selected and migrated to bring the file system utilization percentage down. (Wilde, Col. 8, lines 11-29). This is different than maintaining a list of repository nodes that are associated with each file in the set of files by updating a location components in the fileserver, as recited in claim 1. The present invention updates a location component that maintains a list of files as opposed to Wilde's list of repository nodes. Further, Wilde's bitfile ID is different from

the location component of claim 1 since it only identifies a particular file that is using certain characteristics however it does not maintain a list of files on the system. Thus, Wilde does not disclose this element of claim 1.

In the April 5, 2006 Office Action, with respect to the last element of claim 1, the Examiner stated "it would be obvious that if requested files occur...the stub file being replaced by original file takes precedence rather than migrating the file or migrating another file...This is similar to searching websites. In that in searching websites the most often hit website would be listed as the highest priority because it is the most relevant." (Office Action, page 5, footnote 1). However, the Examiner did not provide any support for his conclusion, contrary to the requirements of MPEP 2144.03:

It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697... As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697.

Thus, the Applicants respectfully request that the Examiner provide evidentiary support to his statement that replacement of stub files with the original file takes precedence rather than migrating the filing is "similar to searching websites [i]n that ...[when] searching websites the most often hit website would be listed as the highest priority because it is the most relevant." (See, Office Action, Page 5, footnote 1). There is nothing in the prior art of record that states that most often hit websites have highest priority because of their relevancy.

In the March 3, 2006 Office Action, the Examiner stated that Kenley discloses the last element of claim 1.

Kenley teaches a digital data storage system with improved data migration. However, Kenley fails to disclose, *inter alia*, receiving metadata and stub files associated with the set of files at a destination fileserver; updating a location component in the destination fileserver to maintain a list of repository nodes that are associated with each file in the set of files, as recited in claim 1.

Kenley provides a hierarchical digital data storage system enabling storage and “transparent” access to digital data. (Kenley, Col. 2, lines 34-36). Kenley includes primary, secondary and backing storage elements, where each element has a different storage space and speed of access. (Kenley, Col. 2, lines 44-55). Kenley includes a data migration element that automatically migrates data from secondary storage to backing store at selected times or in response to a secondary-storage-full signal. (Kenley, Col. 2, lines 60-65). Kenley’s backing store stores data organized as files and includes a file access element enabling a user to request selected files stored in the backing store. (Kenley, Col. 3, lines 29-32). Kenley’s data file stage-in element executes a batched set of file stage-in operations specified by a set of file names asserted by the user. (Kenley, Col. 3, lines 48-51). However, Kenley does not disclose, teach or suggest receiving metadata and stub files associated with the set of files, as recited in claim 1. In contrast, Kenley migrates entire files, thereby significantly slowing processing speed and requiring greater storage space, rather than stub files and any associated metadata. Further, Kenley does not include a location component that maintains a list of repository nodes associated with each file in the set of files, as recited in claim 1. Instead, Kenley teaches a three-element storage system consisting of a primary, secondary and backing store elements. Kenley does not maintain a list of repository nodes that are associated with each specific file that it stores. Once Kenley stores a file, it can be migrated back and forth between storage elements based on user or

application requests. Thus, Kenley does not disclose all elements of claim 1. As such, neither Wilde nor Kenley nor their combination disclose, teach or suggest all elements of claim 1, and claim 1 should be allowed.

Even if one were to combine Wilde and Kenley, which would be improper, the present invention, as recited in claim 1, is not realized. The combination of Wilde and Kenley discloses a system for data file management for migrating entire files from one storage element to another. However, the combination of Wilde and Kenley fails to disclose, *inter alia*, receiving metadata and stub files associated with the set of files at a destination fileserver; updating a location component in the destination fileserver to maintain a list of repository nodes that are associated with each file in the set of files, as recited in claim 1. Thus, the combination of Wilde and Kenley does not render claim 1 obvious and claim 1 should be allowed.

Claims 2-6 are dependent upon independent claim 1. As such, claims 2-6 are patentable for at least the reasons stated above with respect to claim 1. Thus, the rejection of claims 2-6 is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 2-6.

In the April 5, 2006 Office Action, the Examiner rejected claim 7 as being unpatentable over a combination of Wilde, Kenley, and Cabrera. Claim 7 is dependent upon independent claim 1. Thus, claim 7 is patentable over the combination of Wilde and Kenley for at least the reasons stated above with respect to claim 1. Cabrera does not cure the deficiencies of the combination of Wilde and Kenley. Cabrera discloses a system for buffering data from a file in a hierarchical data storage system that allocates data buffers. (Cabrera, Abstract). Cabrera's memory locations, where data bits are maintained, are physical locations having properties corresponding to the data bits. Cabrera's central processing unit manipulates data structures

recorded in a main memory to store, insert, and search for requested data retrieved from a secondary storage. (Cabrera, Col. 5, lines 31-37). However, Cabrera fails to disclose a location component that maintains a list of repository nodes associated with the set of files, as recited in claim 1. It further fails to disclose receiving metadata and stub files associated with a set of files, as recited in claim 1. As such, Cabrera does not disclose all elements of claim 1. Hence, the combination of Wilde, Kenley, and Cabrera does not disclose, teach, or suggest all elements of claim 1. Since, claim 7 is dependent upon claim 1, claim 7 is patentable over the combination of Wilde, Kenley, and Cabrera. Thus, the rejection of claim 7 is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 7.

In the April 5, 2006 Office Action, the Examiner rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over a combination of Wilde and Mu. This rejection is respectfully traversed.

In the Office Action, the Examiner stated that Wilde discloses all elements of claim 8 except “a file server API operative to communicate with a repository, and a files server file transfer module in communication with the file system and operative to receive files for the file system from at least one repository.” The Examiner stated that Mu discloses this element. (Office Action, Page 10). The Examiner stated that Mu discloses “data processing system coupled to storage resources via communications links [0037]. Further disclosing one or more client computers may also be coupled to data processing system via communication links.” (Office Action, page 10).

Claim 8 is patentable over Wilde for at least the reasons stated above with respect to claim 1. Specifically, Wilde does not disclose, teach or suggest, *inter alia*, a recovery service in communication with the files server API and with the file system and operative to transfer a set of



files, the recovery service having: a receiving component operative to receive metadata and stub files associated with the set of files at the fileserver and a location updating component in communication with the receiving component and operative to maintain a list of repository nodes that are associated with each file in the set of files, as recited in claim 8.

Mu does not cure the deficiencies of Wilde. Mu discloses techniques for reducing false recalls by controlling recalls performed by data migration application in a storage environment that includes a plurality of storage units. (Mu, Abstract). Mu's storage system includes a data processing system coupled to storage resources via communications links. (Mu, Para. 0037). Client computers can be coupled to the storage system. (Mu, Para. 0037). However, Mu does not disclose a recovery service in communication with the fileserver API and with the file system and operative to transfer a set of files, the recovery service having: a receiving component operative to receive metadata and stub files associated with the set of files at the fileserver and a location updating component in communication with the receiving component and operative to maintain a list of repository nodes that are associated with each file in the set of files, as recited in claim 8. Thus, neither Wilde nor Mu disclose, teach or suggest all elements of claim 8, and claim 8 should be allowed.

Even if one were to combine Wilde and Mu, which would be improper, the present invention is not realized. Wilde relates to a method and a system for computer file management, including file migration, special handling, and associating extended attributes with files. Wilde's system migrates a file by copying the file to a migration store on a remote storage device. Mu relates techniques for reducing false recalls by controlling recalls performed by data migration application in a storage environment that includes a plurality of storage units. The combination of Wilde and Mu relates to a system for computer file management and migration that includes a

storage system for reducing false recalls. However, the combination of Wilde and Mu fails to disclose, *inter alia*, a recovery service in communication with the fileserver API and with the file system and operative to transfer a set of files, the recovery service having: a receiving component operative to receive metadata and stub files associated with the set of files at the fileserver and a location updating component in communication with the receiving component and operative to maintain a list of repository nodes that are associated with each file in the set of files, as recited in claim 8.

As such, claim 8 is not rendered obvious by the combination of Wilde and Mu. Thus, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 8.

Claims 11 and 12 are dependent on independent claim 8. As such, claims 11 and 12 are patentable over the combination of Wilde and Mu for at least the reasons stated above with respect to claim 8. Hence, the rejection of claims 11 and 12 is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claims 11 and 12.

In the April 5, 2006 Office Action, the Examiner rejected claims 9-10 under 35 U.S.C. 103(a) as being unpatentable over a combination of Wilde, Mu, Kenley and Costello.

Claims 9-10 are dependent upon independent claim 8. Claim 8 is patentable over the combination of Wilde, Mu, and Kenley for at least the reasons stated above with respect to claims 1 and 8. Costello does not cure the deficiencies of the combination of Wilde, Mu, and Kenley. Costello discloses a cluster of computer system nodes that share direct read/write access to storage devices via a storage area network using a cluster filesystem. (Costello, Abstract). Costello is capable of mirroring of data volumes in a mass storage. (Costello, para. 0082). Costello uses mirroring in conjunction with striping in which different portions of data volume

are written to different disks to increase speed of access. (Costello, para. 0082). However, Costello fails to disclose, teach or suggest, *inter alia*, a recovery service in communication with the fileserver API and with the file system and operative to transfer a set of files, the recovery service having: a receiving component operative to receive metadata and stub files associated with the set of files at the fileserver and a location updating component in communication with the receiving component and operative to maintain a list of repository nodes that are associated with each file in the set of files, as recited in claim 8. Thus, the combination of Wilde, Kenley, Mu, and Costello fail to teach all elements of claim 8. Since, claims 9-10 are dependent upon claim 8, they are patentable over the combination of Wilde, Kenley, Mu, and Costello for at least the reasons stated above with respect to claim 8. Hence, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claims 9-10.

In the April 5, 2006 Office Action, the Examiner rejected claim 13 under 35 U.S.C. 103(a) as being unpatentable over the combination of Wilde, Mu, and Costello.

Claim 13 is patentable over the combination Wilde, Mu and Costello for at least the reasons stated above with respect to claims 1 and 8. As such, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 13.

Claim 14 is dependent on independent claim 13. As such, it is patentable over the combination of Wilde, Mu and Costello for at least the reasons stated above with respect to claim 13. Hence, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 14.

No new matter has been added.

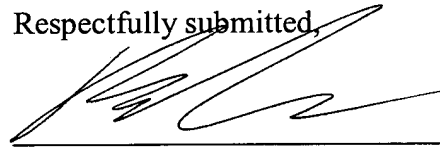
The claims currently presented are proper and definite. Allowance is accordingly in order and respectfully requested. However, should the Examiner deem that further clarification

of the record is in order, we invite a telephone call to the Applicants' undersigned attorney to expedite further processing of the application to allowance.

Applicants believe that no additional fees are due with the filing of this Amendment. However, if any additional fees are required or if any funds are due, the USPTO is authorized to charge or credit Deposit Account Number: 50-0311, Customer Number: 35437, Reference Number: 25452-015.

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Respectfully submitted,



Boris A. Matvenko, Reg. No. 48,165  
MINTZ LEVIN COHN FERRIS  
GLOVSKY & POPEO, P.C.  
Chrysler Center  
666 Third Avenue, 24<sup>th</sup> Floor  
New York, NY 10017  
Tel: (212) 935-3000  
Fax: (212) 983-3115